

SECTION 07620

SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes
 - 1. Metal flashing and counter flashing.
 - 2. Exposed metal trim.
 - 3. Miscellaneous sheet metal accessories.
 - 4. Elastic flashing.
- B. Products Furnished But Not Installed Under This Section: Sheet metal flashing and trim associated with the following Sections.
 - 1. Section 07511 - Built-Up Asphalt Roofing: Provision of built-up asphalt roofing.
- C. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- D. Related Sections
 - 1. Section 05500 - Metal Fabrications: For protection of dissimilar metals.
 - 2. Section 07900 - Joint Sealers: Provision of sealants.
 - 3. Section 09900 - Paints and Coatings: For finish painting.

1.02 REFERENCES

- A. ASTM - American Society for Testing and Materials
 - 1. A792 - Standard Specification for Steel Sheet, Aluminum-Zinc Alloy-Coated by the Hot Dip Process, General Requirements.
 - 2. B32 - Standard Specification for Solder Metal.
 - 3. B749 - Specification for Lead and Lead Alloy Strip, Sheet, and Plate Products.
 - 4. D2822 - Standard Specification for Asphalt Roof Cement.
- B. AWS - American Welding Society
- C. SMACNA - Sheet Metal and Air Conditioning Contractors National Association, Inc.
 - 1. Architectural Sheet Metal Manual.
- D. SSPC - The Society for Protective Coatings
 - 1. Paint 12 - Paint Specification No. 12 Cold-Applied Asphalt Mastic (Extra Thick Film).

1.03 SYSTEM DESCRIPTION

- A. Performance Requirements
 - 1. Work of this Section shall physically protect roofing and other items as indicated from damage that would permit water leakage to building interior.
 - 2. Install sheet metal flashing and trim to withstand wind loads, structural movement, thermally induced movement and exposure to weather without failing.

1.04 SUBMITTALS

- A. Setting Drawings or Templates: Submit setting drawings or templates and setting instructions, for exact locations.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Sheet Metal Flashing and Trim Materials
1. Zinc-Coated Steel: Commercial quality steel with 25 percent recycled content, with 0.20 percent copper, ASTM A526 except ASTM A527 for lock-forming, G90 hot-dip galvanized, mill phosphatized where indicated for painting; 20 gauge except as otherwise indicated.
 2. Lead Sheet: ASTM B749, Type L51121, copper-bearing lead sheet.
- B. Elastic Sheet Flashing/Membrane
1. Nonreinforced flexible, black elastic sheet flashing of 50 to 60 mils thickness.
 2. Manufacturer: Tremco, "Hypalon Elastomeric Sheeting"; Fortifiber, or equal.
- C. Flexible Flashing
1. Cold applied, self-adhering membrane consisting of 3 mil high density, cross-laminated polyethylene film coated on 1 side with 22 mil layer of rubberized asphalt adhesive. Rolls shall be interwound with disposable silicone coated release sheet.
 - a. Flexible flashing shall not be applied in areas where it will be permanently exposed to sunlight and shall be covered within a reasonable amount of time not to exceed 30 days.
 - b. Manufacturer: Grace Construction Products, "Grace Vycor Plus Self-Adhered Flashing", or equal.
- D. Surface Reglet and Counter flashing: As manufactured by Fry Reglet, "Type SM", or approved equal.
- E. Miscellaneous Materials and Accessories
1. Solder and Flux: For use with steel, provide 50 - 50 tin/lead solder, ASTM B32, with rosin flux. Re-melted or reworked solder will not be permitted.
 2. Fasteners: Same metal as flashing/sheet metal or other noncorrosive metal as recommended by sheet manufacturer. Match finish of exposed heads with material being fastened.
 3. Bituminous Coating: SSPC Paint 12, solvent type bituminous mastic, nominally free of sulfur, compounded for 15 mil dry film thickness per coat.
 4. Metal Accessories: Provide sheet metal clips, straps, anchoring devices and similar accessory units as required for installation of work, matching or compatible with material being installed, noncorrosive, size and gauge required for performance.
 5. Elastic Flashing Filler: Closed-cell polyethylene or other soft closed cell material recommended by elastic flashing manufacturer as filler under flashing loops to ensure movement with minimum stress on flashing sheet.
 6. Roofing Cement: ASTM D2822, asphaltic.
- F. Materials for Permanent Protection of Dissimilar Materials: As specified in Section 05500.

2.02 FABRICATION

A. Shop Assembly

1. Design and fabricate work in accordance with SMACNA, unless otherwise indicated.
2. As far as practicable, form and fabricate sheet metal in shop. Where on-site fabrication is required, provide work equal to shop quality. Additionally, identify bulk materials from which items are field fabricated by manufacturer's trademark printed or embossed at frequent intervals.
3. Reproduce accurately profiles and bends indicated.
4. Provide profiles with intersections that are sharp, even and true; with plane surfaces free from buckles and waves; and seams that follow direction of water flow.
5. Reinforce correctly for strength and appearance.
6. Cut, fit, and drill sheet metal as required to accommodate related, adjacent or adjoining work.
7. Exposed Edges of Sheet Metal: Fold, bend or return exposed edges of sheet metal. Raw edges will not be permitted.
8. Form pieces in longest practical lengths.

B. Sheet Metal Joints

1. In general, provide lock joints; where impractical, lap, rivet, solder, or weld joints, or join as otherwise recommended by manufacturer.
2. Join joints and miters as recommended by manufacturer.
3. Where positive joining is required, weld in accordance with applicable AWS standards.
4. Turn lock joints on exposed surfaces in direction of flow.

C. Soldering

1. Neatly solder exposed surfaces.
2. Pre-tin edges minimum 1-1/2 inches both sides prior to soldering.
3. Solder and seal metal joints. After soldering, remove flux. Wipe and wash solder joints clean.

D. Expansion and Contraction of Sheet Metal Runs

1. General: Provide loose locking slip joint of maximum 8 feet from external and internal corners, maximum 24 feet length of straight runs, unless manufacturer recommends more frequent interval, and 1 at center of runs less than 20 feet, but more than 8 feet, unless specified otherwise following herein.

E. Provide the following items of materials and minimum gauges as indicated:

1. Cleats: Formed of same metal as that being anchored, with size, shape, and quantity as required to secure flashing and sheet metal work in place.
2. Base Flashing, Counter Flashing and Roof Penetration Flashing
 - a. Formed with 3/4-inch locked and soldered seams, assembled into units not longer than 16 feet.
 - b. Join units with 3/4-inch wide loose locked seams filled with soft grade butyl base compound, before units are assembled.
 - c. Mitre corners and joints by riveted or locked and soldered joints.

2.03 GALVANIZED STEEL SHEET FINISH

- A. High-Performance Organic Coating Finish: Apply the following system by coil-coating process on galvanized steel sheet as recommended by coating manufacturers and applicator.

1. Fluoropolymer 2 Coat Coating System: Manufacturer's standard 2 coats, thermocured system composed of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight; complying with AAMA 605.2.
 - a. Color and Gloss: As selected by the Architect from manufacturer's full range of choices for color and gloss.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Conform with procedures and methods of installation and applicable details shown and described in SMACNA Manual.
- B. Where installation requires fabrication at the Project site, conform to applicable requirements of Article titled "Fabrication" in this Section.
- C. Install standard catalog products in accordance with manufacturer's instructions, unless otherwise indicated.
- D. Install work watertight; ensure that items are installed in true and accurate alignment with other items and related work, that joints are accurately fitted, that corners are reinforced and that exposed surfaces are free of dents.
- E. Apply flashing compound at slip joints or wherever metal-to-metal contact occurs and movement may be anticipated to occur.
- F. Flashings
 1. Fasten sheet metal runs to underlying material by nailing through slotted holes in flange at 3 inches on center, unless otherwise indicated or required by manufacturer.
 2. Provide waterproof washers wherever fasteners penetrate flashings.
- G. Rainwater Leaders: Join sections with 1-1/2 inch telescoping joints. Provide fasteners designed to hold downspouts securely 1 inch away from walls; locate fasteners at top and bottom and at approximately 60 inches on center in between.
 1. Tie rainwater leaders to underground drainage system indicated.

3.02 ADJUSTING

- A. Replace damaged material with new.

3.03 SCHEDULE

- A. Fabricate sheet metal items in thickness or weight needed to comply with performance requirements but not less than that listed below for each application and metal.
 1. Rainwater Leaders: 0.0217-inch thick.
 2. Exposed Trim and Fascia: 0.0276-inch thick.
 3. Base Flashing: 0.0276-inch thick.
 4. Counter flashing: 0.0217-inch thick.
 5. Flashing Receivers: 0.0217-inch thick.
 6. Drip Edges: 0.0217-inch thick.

7. Eave Flashing: 0.0217-inch thick.
8. Equipment Support Flashing: 0.0276-inch thick.
9. Roof Penetration Flashing: 0.0276-inch thick.
10. Cap Flashing: 0.0516-inch thick.
11. Down spouts: Stainless steel, 24 gauge

END OF SECTION